LATITUDINAL VARIATIONS IN SETTLEMENT AND SURVIVAL OF THE PEDUNCULATE BARNACLE, *POLLICIPES POLYMERUS* SOWERBY

The pedunculate barnacle, *Pollicipes polymerus*, has a broad distribution range along the West Coast of North America, from British Columbia, Canada, to Punta Abreojos, Baja California, Mexico. Brooding activity indicates two geographically disparate races corresponding to the cold and warm water temperature zones north and south of Point Conception, California (34° 16' 12" N) (Cimberg, 1981). Settlement and recruitment were monitored on two California populations that corresponded to these two races: a southern race from La Jolla (32° 52' 12" N) and a northern race from Bodega Head (38° 18' 30" N).

The cyprid larvae of *Pollicipes* settle preferentially on the peduncles of adult conspecifics facilitating settlement and recruitment measurements. The index of settlement is defined as the mean number of spat/adult; spat being individuals <1 mm rostro–carinal (R–C) length. Recruitment is defined as the mean number of juvenile barnacles in the 1–9 mm R–C length. Generally barnacles this size remain attached to the adult peduncles. From observations off La Jolla, growth of barnacles in newly established aggregates is quite rapid reaching mean R–C lengths in less than one month. By five months a mean R–C length of almost 15 mm is attained (Hoffman, 1989).

We define survival as the mean number of juvenile/adult divided by the mean number of spat/adult from the preceding month's sample. The rationale being that the spat grow quickly reaching the juvenile size range during their first month of existence. Although settlement occurs year round off La Jolla with peaks (133–290 spat/adult) occurring during the early spring, the percent survival from spat to juvenile peaks (19%) during the late autumn–early winter months. At Bodega Head, settlement occurs from April through January peaking during the early summer (22.6 spat/adult) and early winter (26–37 spat/adult). Survivorship in the northern population peaks (37–64%) during the summer months. It is proposed that the lower survivorship in the La Jolla race may be due to desiccation and/or temperature stresses exerted on the recently settled spat along the warmer and drier southern California coastline.

Literature Cited

Cimberg 1981. Variability in brooding activity in the stalked barnacle *Pollicipes polymerus*. Biological Bulletin. Marine Biological Laboratory, Woods Hole **160**: 31–32.

Hoffman, D.L. 1989. Settlement and recruitment patterns of a pedunculate barnacle, *Pollicipes polymerus* Sowerby, off La Jolla, California. Journal of Experimental Marine Biology and Ecology **125**: 83–98.

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PHYLOGENETIC AND BIOGEOGRAPHIC RELATIONSHIPS OF THE SUBTERRANEAN AMPHIPOD GENUS *BAHADZIA* (HADZIIDAE) IN THE WEST INDIAN REGION

As presently known, the subterranean amphipod genus *Bahadzia* is composed of 7 species: 4 from anchialine caves in the Bahamas and Turks and Caicos Islands, 1 from shallow (mostly freshwater) wells in southeastern Haiti, and 2 (descriptions in prep.) from anchialine caves on the Yucatan Peninsula and the nearby island of Cozumel. A cladistic analysis of the genus, using PAUP, suggests that nested subsets of species correspond closely to geographically separate areas. The geographic distribution of *Bahadzia* is nearly congruent with the distributions of 4 other small, monotypic subterranean crustacean genera, including the remipede *Speleonectes*, the thermosbaenacean *Tulumella*, the cirolanid isopod *Bahalana*, and the decapod shrimp *Agostocaris*. Preliminary track analysis and observations on natural history suggest that *Bahadzia* and these other stygobiont taxa, have shared a similar distributional history.

A second cladistic analysis, which compares *Bahadzia* with most other hadziid genera in the greater West Indian region, strongly supports the possibility suggested previously that *Bahadzia* is more closely allied phylogenetically with the freshwater genus *Mayaweckelia* and its sister genus (description in press) from caves on the Yucatan Peninsula, than with any other genus or group of genera in the family Hadziidae.

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